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Michael Alan Miles

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EXAMINER

YU, JAE UN

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/759,184	<b>Applicant(s)</b> MILES, MICHAEL ALAN	
	<b>Examiner</b> JAE U. YU	<b>Art Unit</b> 2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-26 is/are allowed.
- 6) ☒ Claim(s) 27-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The examiner acknowledges the applicant's submission of an amendment dated 5/16/2008. At this point claims 15, 22, 35, 37 and 49 have been amended. Claims 1-14 have been cancelled. Thus, claims 15-65 are pending in the instant application.

#### ***Response to Amendment***

In view of the applicant's amendment, the 35 USC 112 rejection for claims 15, 22, 35 and 37 are withdrawn.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Claim 49** recites "...a width that is approximately equal to the pitch..." (emphasis added), wherein such term is indefinite.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Teo et al. (US 2003/0002190).
2. Independent claims 35 and 37 disclose; “(A) positioning the write element **[Element 15, Figure 6]** over of a track on the storage medium”, “(B) writing a certification pattern **[“writing a bit pattern to the track”, Paragraph 7]** to a data area of said track with the write element”, “(C) repositioning the write element to be positioned at least partially over another track on the storage medium **[rotation causes write element reposition, Figure 8]**”, “(D) while the write element is positioned at least partially over said another track on the storage medium reading at least a portion of said certification pattern using the read element **[“reading the bit pattern”, Paragraph 8]** in order to allow the integrity of said data area to be checked **[checking the bit error rate, Paragraph 9]**”, and “(E) repeating steps (A) to (D) as required for subsequent tracks **[Paragraph 11]** on the storage medium”.
3. Claim 36 discloses, “repeating step (B) for plural data areas of said track prior to carrying out step (C) **[Paragraph 11]**, and in step (D) reading at least a portion of the certification pattern **[“reading the bit pattern”, Paragraph 8]**s written to said track in order to allow the integrity of said data areas to be checked **[checking the bit error rate, Paragraph 9]**”.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 27-34 and 38-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teo et al. (US 2003/0002190) in view of Zhu et al. (US 2003/0123172).

2. As per independent claims 27, 32, 48, 51, 52 and 59 & dependent claims 53-56, 58 and 60-63, 65, Teo et al. disclose; “(A) writing a first portion of a position field **[Writing “PLL Field” 28, Figure 8]** of a frame to a first part of a first rack with the write element”,

“(B) moving the write element relative to the storage medium such that a second portion of said position field **[The storage medium rotates in the direction of the arrow to align the write element with the “User Data” 26, Figure 8]** of said frame of said first track can be written at a position that is at least spaced laterally of the track from said first position **[“PLL Field” 28, Figure 6]**”,

“(C) during the movement in step (B), reading a position field of a frame of a second track **[Reading the next “S/F” 32, Figure 9]**”,

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“(D) writing a second portion **[Writing “User Data” 26, Figure 8]** of said position field of said frame of said first track at a position that is at least spaced laterally of the track from said first portion with the write element **[“PLL Field” 28, Figure 8]**, and

“(E) repeating steps (A) to (D) as required for further tracks on the storage medium **[Paragraph 11]**”.

Teo et al. do not disclose expressly writing and verifying “a servo frame” providing references for locating data sectors.

**Zhu et al. disclose writing a servo frame and verifying the written servo frame in abstract.**

Teo et al. and Zhu et al. are analogous art because they are from the same field of endeavor of disk drive management.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Teo et al. by verifying a written servo frame as taught by Zhu et al. in abstract.

The motivation for doing so would have been to perform certification, servowriting and verification in an efficient manner as expressly taught by Zhu et al. in paragraph 8.

Therefore, it would have been obvious to combine Zhu et al. with Teo et al. for the benefit of an efficient hard disk operation to obtain the invention as specified in claims 27, 32, 48 and 51.

3. **Claims 28 and 33** disclose, “step (B) comprises moving the write element relative to the storage medium both laterally for the track and longitudinally of the track, and wherein the reading in step (C) takes place during said longitudinal movement **[the arrow representing the longitudinal movement, Figure 7]**”.

4. **Claim 29** discloses, “repeating step (A) as required for further servo frames of said first track prior to carrying out step (B) and then repeating steps (B) to (D) as required for said further servo frames of said track **[Paragraph 11]**”.

5. **Claim 30** discloses, “carrying out steps (A) to (E) for at least all tracks in the data area of the storage medium **[Paragraph 11]**”.

6. **Claims 31, 34, 57 and 64** discloses, “the position field is demodulated to provide a position error signal that is used to control the movement of the head **[the “ID Data field” comprising digital data encoded with a grey code identifying the “track number” and a “position error signal”, Paragraph 56]**”.

7. **Claim 49** discloses, “the read element has a width **[Element 11, Figure 6]** that is approximately equal to the pitch **[Element 33, Figure 6]** of the tracks of a said storage medium”.

8. **Claim 50** discloses, “the separation between the read and write elements is such that the read element can read the entire previously written logic field **[reading “S/F”, Figure 13]** of a servo frame of a track of the storage medium whilst the write element is moving towards the position where it writes at least a portion of a position field **[moving towards the “PLL Field” of the previous track, Figure 13]** of a servo frame of another track of the storage medium”.

### ***Argument Concerning Prior Art Rejections***

#### **1<sup>st</sup> Point of Argument**

Regarding claims 35 and 37, the applicant argues that Teo fails to teach the new claim limitations added in the amendment. However, as apparent in the corresponding claim rejection above, Teo expressly teaches writing a certification pattern in paragraph 7, repositioning the write element to be positioned at least partially over another track on the storage medium (Figure 8) so the certification pattern using the read element (Paragraph 8) in order to check the integrity of the data area (Paragraph 9).

#### **2<sup>nd</sup> Point of Argument**



Regarding claims 27, 32, 48, 51, 52 and 59, the applicant argues that the cited prior arts fail to teach “a position field”. However, Zhu discloses a servo frame in figure 2, wherein such servo frame includes position information (Paragraph 31). Further, the applicant argues that the cited prior arts fail to teach writing such position field in two steps. However, Teo discloses in Figure 8, writing a first portion (“PPL Field”) and a second portion (“User Data”) at different times (“two steps”).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

A. Subject Matter Considered Allowable

Claims 15-26 are allowed. The primary reasons for allowance of **claims 15 and 22** in the instant application is the combination with the inclusion in these claims that **“(D) moving the write element relative to the storage medium such that a second portion of said position field of said servo frame of said track can be written at a position that is at least space laterally of the track from said first portion; (E) during the movement in step (D), reading at least one of (i) said logical field of said servo frame of said track and (ii) a logic field of a servo frame of another track, in order to allow said portion of the logic field to be verified”**. The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claims 16-21 and 23-26** are allowable due to their dependency on the allowed claims 15 and 22.

B. Claims No Longer in the Application

Claims 1-14 are cancelled.

C. Claims Rejected in the Application

Claims 27-65 have received a second action on the merits and are subject of a second action final.

D. Direction of Future Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Un Yu who is normally available from 9:00 A.M. to

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5:30 P.M. Monday thru Friday and can be reached at the following telephone number:  
(571) 272-1133.

If attempts to reach the above noted examiner by telephone are unsuccessful, the Examiner's supervisor, Sanjiv Shah, can be reached at the following telephone number: (571) 272-4098.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jae U Yu/

Examiner, Art Unit 2185

9/2/2008

/Sanjiv Shah/

Supervisory Patent Examiner, Art Unit 2185